Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 08/23/2024

PROJECT

08-05-24 PF CHANGS AUSTIN, TX

8480 Keystone Crossing

Indianapolis, IN 46240

Client

P.F. Chang's China Bistro

7676 E. Pinnacle Peak Rd

Scottsdale, AZ 85255

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

Table Of Contents

1329 E Kemper Rd
Suite 4210
Cincinnati, OH 45246
[855] 682 6822

National TAB was called to P.F. Chang's Austin to address concerns of humidity/condensation, in the space, especially in the bar area. Initial findings were of moderate negative building pressure (-0.036" W.C. average), and very low RTU supply air flow on all RTUs. Hood exhaust/supply air flow was found to be within design or marginally low.

RTU supply air flow was increased as much as possible at time of visit. They are still all marginally low despite maximizing fan speeds. See issues section for recommendations on how to further increase RTU supply air flow. Increasing RTU air flow will allow the Outside air: Return air ratio to improve, allowing the units to cool and dehumidify more efficiently. Kitchen staff were interviewed to ensure satisfactory hood performance.

After RTU supply cfm was increased, and outside air was set, the building pressure became +0.0123" W.C. average. The bar staff was interviewed at the end of the job concerning the condensation. They indicated that the condensation had dried up and that overall comfort was improved.

Issue List

- RTU-1
- RTU-2
- RTU-3

08-05-24 PF CHANGS AUSTIN, TX

Project Issue Information

Issue Name :	RTU-1		
Description :	RTU-1 is operating at 89% of design flow with fan speed maximized. Recommend pulley change to bring air flow to within tolerance.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	
Originated Date :	08/23/2024 - Wesley John - National TAB		

08-05-24 PF CHANGS AUSTIN, TX

Project Issue Information

Issue Name :	RTU-2		
Description :	RTU-2 is operating at 89% of air flow with fan speed maximized. A pulley change will help to bring air flow to within tolerance, however supply fan motor is operating near full load amp rating. Supply air CFM would not be able to be increased much.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	
Originated Date :	08/23/2024 - Wesley John - National TAB		

08-05-24 PF CHANGS AUSTIN, TX

Project Issue Information

Issue Name :	RTU-3		
Description :	RTU-3 is operating at 80% of design flow with fan speed maximized. Recommend pulley change to bring air flow to within tolerance.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	
Originated Date :	08/23/2024 - Wesley John - National TAB		

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	DINING	8000	3045	6200	2456	1800	589	22.5%	19.3%						
RTU-2	DINING	10000	4439	7600	3547	2400	892	24.0%	20.1%						
RTU-3	KITCHEN	10000	5750	7600	4957	2400	793	24.0%	13.8%						
MUA-1	HOODS-3&4									7095	6742				
MUA-2	HOODS-1&2									6240	6486				
KEF-1	HOOD-1											4730	4235		
KEF-2	HOOD-2											4730	4677		
KEF-3	HOOD-3											4800	3255		
KEF-4	HOOD-4											3000	2134		
KEF-5	HOOD-5											1100	1056		
EF-1	CUSTOMER RR													750	705
EF-2	EMPLOYEE RR													125	134
TOTALS		28000	13234	21400	10960	6600	2274			13335	13228	18360	15357	875	839

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	19935	15502
TOTAL EXHAUST	19235	16196
NET AIRFLOW	700	-694

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	-0.032
SIDE	-0.037
REAR	-0.039
AVERAGE	**-0.036**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✗

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✗

NOTES:

INITIAL CONDITIONS

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	DINING	8000	7093	6200	5371	1800	1722	22.5%	24.3%						
RTU-2	DINING	10000	8872	7600	6522	2400	2350	24.0%	26.5%						
RTU-3	KITCHEN	10000	7962	7600	5666	2400	2296	24.0%	28.8%						
MUA-1	HOODS-3&4									7095	6742				
MUA-2	HOODS-1&2									6240	6486				
KEF-1	HOOD-1											4730	4724		
KEF-2	HOOD-2											4730	4677		
KEF-3	HOOD-3											4800	3996		
KEF-4	HOOD-4											3000	2775		
KEF-5	HOOD-5											1100	1056		
EF-1	CUSTOMER RR													750	705
EF-2	EMPLOYEE RR													125	134
TOTALS		28000	23927	21400	17559	6600	6368			13335	13228	18360	17228	875	839

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	19935	19596
TOTAL EXHAUST	19235	18067
NET AIRFLOW	700	1529

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.014
SIDE	0.012
REAR	0.011
AVERAGE	**0.0123**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

FINAL

CheckList List

- TECH - SITE PICTURES

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - SITE PICTURES	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/01/2024 - Brian Turnbough - National TAB		
Completed Date :	08/23/2024 - Wesley John - National TAB		

CheckList Item Details

STORE FRONT

Comment:

08/23/2024

RTU-1

Comment:

08/23/2024

RTU-2

Comment:

08/23/2024

RTU-3

Comment:

08/23/2024

MAU-1

Comment:

08/23/2024

MAU-2

Comment:

08/23/2024

EF-1

Comment:

08/23/2024

KEF-1

Comment:

08/23/2024

KEF-2

Comment:

08/23/2024

KEF-3

Comment:

08/23/2024

KEF-4

Comment:

08/23/2024

CheckList List

- TECH - INITIAL READINGS
- TECH - STEP 1: INITIAL SITE WALKTHROUGH
- TECH - STEP 2: UNIT, DATA AND EVAL
- TECH - STEP 3: TEST, ADJUST AND BALANCE
- TECH - STEP 4: FINAL TESTS

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - INITIAL READINGS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/05/2024 - Brianna Biggs - National TAB		
Completed Date :	08/23/2024 - Wesley John - National TAB		

CheckList Item Details

INITIAL BUILDING REVIEW:

What is the initial building pressure before making any changes?

Comment:

-0.032"

Are thermostats programmed? N/A

Comment:

Are building pressure relief working properly?

Comment:

N/A

INITIAL AIRFLOWS:

SUPPLY RTU-1

Comment:

3045

OA RTU-1

Comment:

589

SUPPLY RTU-2

Comment:

4439

OA RTU-2

Comment:

892

SUPPLY RTU-3

Comment:

5750

OA RTU-3

Comment:

793

EF-1

Comment:

705

EF-2

Comment:

134

KEF-1

Comment:

4235

KEF-2

Comment:

4677

KEF-3

Comment:

3255

KEF-4

Comment:

2134

KEF-5

Comment:

1056

MAU-1

Comment:

6742

MAU-2

Comment:

6486

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - STEP 1: INITIAL SITE WALKTHROUGH	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/01/2024 - Brian Turnbough - National TAB		
Completed Date :	08/23/2024 - Oscar Ventura - National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	Yes
Comment:	
All hood filters installed and accounted for?	Yes
Comment:	
Hoods are wired and have power?	Yes
Comment:	
Hood is free of alarms?	Yes
Comment:	
Thermostats have power?	Yes
Comment:	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	
Comment:	

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - STEP 2: UNIT, DATA AND EVAL	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/01/2024 - Brian Turnbough - National TAB		
Completed Date :	08/23/2024 - Wesley John - National TAB		

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

Economizers are assembled and functional?	Yes
Comment:	
DCV Max damper opening position is set to minimum?	Yes
Comment:	
Free cooling enthalpy set point set for lowest setting (Typically "D")	N/A
Comment:	
Motors are all operating below the FLA rating?	Yes
Comment:	

Are belts tight?

Comment:

YES

If direct drive unit is the speed controller working.

Comment:

Is gas piping installed and valves turned on?	N/A

Comment:

Unit free of noticeable noise and vibration	Yes

Comment:

YES

EF's

Rotation is correct?	Yes

Comment:

Belts are tight?

Comment:

Grease cup installed on hood fan?	Yes

Comment:

Hinge kit installed installed on hood fan?	Yes

Comment:

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Yes

Comment:

There is no major leakage around base of fan?	Yes

Comment:

Is the motor operating below the motor FLA rating?	Yes

Comment:	
For restroom fan(s) is the back draft damper installed and can it fully open?	Yes
Comment:	
Unit free of noticeable noise and vibration?	Yes
Comment:	
MUA	
Rotation is correct?	Yes
Comment:	
Gas piping is installed and valves are in on position?	Yes
Comment:	
Heater tested and is functional?	Yes
Comment:	
Internal motorized damper is fully opening?	N/A
Comment:	
Motor is operating below the FLA rating?	Yes
Comment:	
Unit free of noticeable noise and vibration?	Yes
Comment:	
HOODS	
Kitchen equipment installed in proper places?	Yes
Comment:	
Can kitchen equipment be turned on for final smoke test?	Yes

Comment:

DOCUMENTATION	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	Yes

Comment:

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/01/2024 - Brian Turnbough - National TAB		
Completed Date :	08/23/2024 - Oscar Ventura - National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?	Yes
Comment:	
Is space comfortable in all areas?	Yes
Comment:	
Is the space free of ventilation noise?	Yes
Comment:	

If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".

Comment:

NA

08-05-24 PF CHANGS AUSTIN, TX

CheckList Information

Name :	TECH - STEP 4: FINAL TESTS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	08/01/2024 - Brian Turnbough - National TAB		
Completed Date :	08/23/2024 - Wesley John - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

ALL

List smoke candle type used

Comment:

OBSERVED COOKING

Smoke test capture - Perimeter of hood

Comment:

100%

Smoke test capture - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	08/08/2024

Comment:

TAB tech name / Firm

Comment:

OSCAR VENTURA / NATIONAL TAB

Site super name / Firm

Comment:

OPEN STORE. NO SITE SUPER PRESENT.

Owner representative name / Firm (if Applicable)

Comment:

NA

Building pressure at front & back doors (All Systems On)

Comment:

FRONT: 0.014 SIDE: 0.012 BACK: 0.011

ADDITIONAL

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Comment:

YES

Thermostats are programmed? No

Comment:

GRIDPOINT STATS

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: EF1 AREA:CUSTOMER RESTROOMS

Unit Data		
	Design	**Actual**
MFG	GREENHECK	CAPTIVEAIRE
Model Num	GB-100-4	DR50HFA
Serial Num	-	5988093
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO
Frame	-	NL
Horsepower	1/4	0.5
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	750	705
Fan RPM	-	1564
Fan Rotation	-	CCW
Motor RPM	-	1564
System SetPt	-	65%
RL Voltage	-	115
RL Amperage	-	2.3
Total ESP	0.50"	0.43"
Fan Inlet SP	-	-0.43"
Fan Discharge SP	-	ATM

Completed By: Oscar Ventura on 08/08/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: EF2 AREA:EMPLOYEE RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-9	SP-9
Serial Num	-	NL
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	(1)
Frame	-	(1)
Horsepower	80W	(1)
Motor Rpm	-	(1)
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	(1)
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	125	134
Fan RPM	-	NA
Fan Rotation	-	CCW
Motor RPM	-	NA
System SetPt	-	DD
RL Voltage	-	(2)
RL Amperage	-	(2)
Total ESP	0.35"	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	NA

Completed By: Oscar Ventura on 08/08/2024

Notes:
(1) MOTOR DATA TAG NOT ACCESSIBLE.
(2) WIRES NOT ACCESIBLE.

Written By: Wesley John on 08/23/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: KEF1 AREA:HOOD-1

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA24BFT	DU24OHFA
Serial Num	-	5143694
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	213T
Horsepower	-	(1)
Motor Rpm	-	(1)
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	(1)
Service Factor	-	(1)

Test Data		
	Design	**Actual**
CFM	4730	4724
Fan RPM	-	(1)
Fan Rotation	-	CCW
Motor RPM	-	(1)
RL Voltage	-	207
RL Amperage	-	5.9/5.8/5.8
Suction ESP	-	-0.47"
Discharge ESP	-	ATM
Total ESP	1.25"	0.47"

Completed By: Oscar Ventura on 08/08/2024

Notes:
(1) MOTOR TAG NOT LEGIBLE.

Written By: Wesley John on 08/23/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: KEF2 AREA:HOOD-2

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA24BFT	DU240HFA
Serial Num	-	5143694
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	213T
Horsepower	2.0	3
Motor Rpm	-	1175
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	3.20
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	4730	4677
Fan RPM	-	1124
Fan Rotation	-	CCW
Motor RPM	-	1124
RL Voltage	-	209
RL Amperage	-	3.1/3.0/3.0
Suction ESP	-	-0.86"
Discharge ESP	-	ATM
Total ESP	1.25"	0.86"

Completed By: Oscar Ventura on 08/08/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: KEF3 AREA:HOOD-3

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA24BFT	BDU24HP
Serial Num	-	3327820
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	(1)
Frame	-	(1)
Horsepower	2.0	(1)
Motor Rpm	-	(1)
Phase	3	3
Voltage (rated)	208	(1)
Amperage (rated)	-	(1)
Service Factor	-	(1)

Drive Data	
	Actual
Motor Sheave Size	4"
Motor Bore Size	1"
Motor Sheave SetPt	2 TURNS OPEN
Fan Sheave Size	5.75"
Fan Sheave Bore	1"
Belt CL Distance	8"
Num of Belts	2
Belt Size	AX27

Test Data		
	Design	**Actual**
CFM	4800	3996
Fan RPM	-	1751
Fan Rotation	-	CCW
Motor RPM	-	1751
RL Voltage	-	207
RL Amperage	-	4.6/4.7/4.8
Suction ESP	-	-0.96"
Discharge ESP	-	ATM
Total ESP	1.25"	0.96"

Completed By: Oscar Ventura on 08/08/2024

Notes:
(1). MOTOR DATA TAG NOT LEGIBLE.

Written By: Wesley John on 08/23/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: KEF4 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA16BFT	DU180HFA
Serial Num	-	5153257
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	182T
Horsepower	1.5	1.5
Motor Rpm	-	1170
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	6.01/3.01
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD

Test Data		
	Design	**Actual**
CFM	3000	2175
Fan RPM	-	1118
Fan Rotation	-	CCW
Motor RPM	-	1118
RL Voltage	-	208
RL Amperage	-	5.8
Suction ESP	-	1.15"
Discharge ESP	-	ATM
Total ESP	1.25"	1.15"

Completed By: Oscar Ventura on 08/08/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Exhaust

Asset: KEF5 AREA:HOOD-5

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	ILG
Model Num	DDU16R	550670UDA13F11E
Serial Num	-	062008M516490
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	EMERSON
Frame	-	NL
Horsepower	1/2	1/5
Motor Rpm	-	1140
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.2
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1100	1056
Fan RPM	-	1107
Fan Rotation	-	CCW
Motor RPM	-	1107
RL Voltage	-	112
RL Amperage	-	1.8
Suction ESP	-	-0.59"
Discharge ESP	-	ATM
Total ESP	0.75"	0.59"

Completed By: Oscar Ventura on 08/08/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Supply

Asset: MUA1 AREA:HOODS-3&4

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NHMU3.18-920	F3-D.750-G18
Serial Num	-	5143694
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	(1)
Frame	-	(1)
Horsepower	7.5	(1)
Motor Rpm	-	(1)
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	(1)
Service Factor	-	(1)

Test Data		
	Design	**Actual**
CFM	7095	6742
SF RPM	-	NA
Motor RPM	-	NA
SF System SetPt	-	NA
RL Voltage	-	207/208/207
RL Amperage	-	9.7/9.9/9.7
Total ESP	-	0.87"
Fan Discharge SP	-	0.87"

General	
	Actual
Fan Rotation Correct	YES

Completed By: Oscar Ventura on 08/23/2024

Notes:
(1) TAG NOT LEGIBLE.

Written By: Wesley John on 08/23/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: FAN - Supply

Asset: MUA2 AREA:HOODS-1&2

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NHMU3.18-G18	A3-D.750-G18
Serial Num	-	2641184
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	(1)
Frame	-	(1)
Horsepower	5.0	(1)
Motor Rpm	-	(1)
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	(1)
Service Factor	-	(1)

Test Data		
	Design	**Actual**
CFM	6240	6486
SF RPM	-	NA
Motor RPM	-	NA
SF System SetPt	-	NA
RL Voltage	-	207/207/208
RL Amperage	-	10.1/10.2/10.1
Total ESP	-	0.98"
Fan Discharge SP	-	0.98"

General	
	Actual
Fan Rotation Correct	YES

Completed By: Oscar Ventura on 08/23/2024

Notes:
(1). DATA TAG NOT LEGIBLE.

Written By: Wesley John on 08/23/2024

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6024ND-BR	6024ND-BR
Job / Serial Num	-	NL
Type	TYPE I	TYPE 1
Hood length	126"	126"
Hood Width	60"	54"
Supply Plenum Type	-	MUA

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X16
Filter Size 2	-	20X16
Filter Qty 1	-	4
Filter Qty 2	-	3
Filter AK factor size 1	-	1.62
Filters AK factor size 2	-	2.08
Filter Total AK Area	-	12.72
Filter1 FPM	-	374
Filter2 FPM	-	354
Filter3 FPM	-	382
Filter4 FPM	-	365
Filter5 FPM	-	364
Filter6 FPM	-	384
Filter7 FPM	-	377
Filter Ave FPM(corr)	-	371
CFM	4730	4724

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	RANGE
Item 3	WOK

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: Kitchen Hood Type I

Asset: HD2 AREA:COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6024ND-BR	6024ND-BR
Job / Serial Num	-	NL
Type	TYPE I	TYPE I
Hood length	126"	126"
Hood Width	60"	54"
Supply Plenum Type	-	MUA

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X16
Filter Size 2	-	20X16
Filter Qty 1	-	5
Filter Qty 2	-	4
Filter AK factor size 1	-	1.62
Filters AK factor size 2	-	2.08
Filter Total AK Area	-	16.42
Filter1 FPM	-	235
Filter2 FPM	-	236
Filter3 FPM	-	355
Filter4 FPM	-	347
Filter5 FPM	-	282
Filter6 FPM	-	289
Filter7 FPM	-	250
Filter Ave FPM(corr)	-	288
CFM	4730	4677

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	WOK
Item 3	RANGE

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: Kitchen Hood Type I

Asset: HD3 AREA:COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5124NFR	5124NFR
Job / Serial Num	-	NL
Type	TYPE I	TYPE I
Hood length	183"	183"
Hood Width	51"	51"
Supply Plenum Type	-	MUA

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X16
Filter Size 2	-	20X16
Filter Qty 1	-	5
Filter Qty 2	-	4
Filter AK factor size 1	-	1.62
Filters AK factor size 2	-	2.08
Filter Total AK Area	-	16.42
Filter1 FPM	-	137
Filter2 FPM	-	141
Filter3 FPM	-	170
Filter4 FPM	-	181
Filter5 FPM	-	178
Filter6 FPM	-	164
Filter7 FPM	-	143
Filter8 FPM	-	131
Filter9 FPM	-	128
Filter Ave FPM(corr)	-	152
CFM	4800	3996

Cooking Equipment	
	Actual
Item 1	RANGE
Item 2	WOK
Item 3	FRYER

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: Kitchen Hood Type I

Asset: HD4 AREA:COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5124NFR	5124NFR
Job / Serial Num	-	NL
Type	TYPE I	TYPE I
Hood length	113"	113"
Hood Width	51"	51"
Supply Plenum Type	-	MUA

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X16
Filter Size 2	-	20X16
Filter Qty 1	-	3
Filter Qty 2	-	3
Filter AK factor size 1	-	1.62
Filters AK factor size 2	-	2.08
Filter Total AK Area	-	11.1
Filter1 FPM	-	177
Filter2 FPM	-	170
Filter3 FPM	-	243
Filter4 FPM	-	222
Filter5 FPM	-	176
Filter6 FPM	-	189
Filter Ave FPM(corr)	-	196
CFM	3000	2775

Cooking Equipment	
	Actual
Item 1	RANGE
Item 2	FRYER

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: Kitchen Hood Type II

Asset: HD(Type2)5 AREA:DISHWASHER

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	4224VH1-G	4224VH1-G
Serial Num	-	NL
Type	TYPE II	TYPE II
Hood length	60"	60"
Hood Width	42"	42"

Test Data		
	Design	**Actual**
Exhaust CFM	1100	1056

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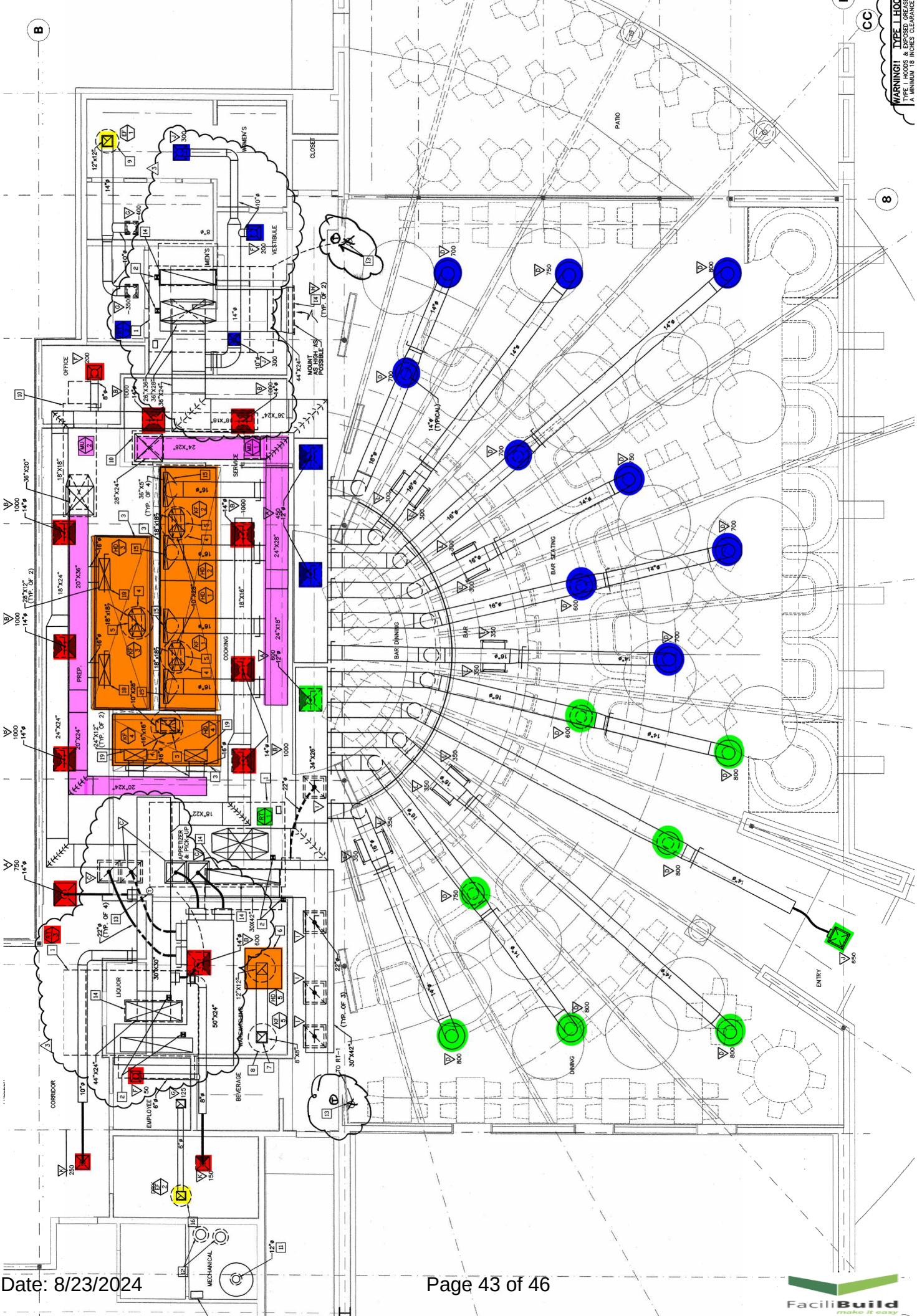

National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: AHU/RTU

Asset: RTU1 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	LENNOX	TRANE
Serial Num	-	23153241JA
Model Num	LGA240H	GCC240A3ELA0B070
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	67X20
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	NL
Horsepower	7.5	5.0
Motor Rpm	-	3450
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	13.4

Drive Data	
	Actual
Motor Sheave Size	4.5"
Motor Bore Size	1"
Motor Sheave SetPt	1 TURN OPEN
Fan Sheave Size	14"
Fan Sheave Bore	1.25"
Belt CL Distance	14"
Num of Belts	1
Belt Size	BX55
Belt Alignment	CORRECT

Test Data		
	Design	**Actual**
SF CFM	8000	7093
SF RPM	-	3059
RA CFM	6200	5371
OA CFM	1800	1722
RL Voltage	-	208/207/207
RL Amperage	-	12.1/12.0/12.2
SF Rotation	-	CCW
RA Damper Position	-	65%
Min OA Damper Position	-	35%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.53"
Total ESP	0.80"	0.90"
Fan Total SP	-	1.20"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: AHU/RTU

Asset: RTU2 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5609J00246
Model Num	LGA300H	LGC300H4BS3Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X24
Num Final Filter 1	-	12
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	184T
Horsepower	7.5	5.0
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	14.3

Drive Data	
	Actual
Motor Sheave Size	5"
Motor Bore Size	1"
Motor Sheave SetPt	1 TURN OPEN
Fan Sheave Size	12"
Fan Sheave Bore	1.25"
Belt CL Distance	14"
Num of Belts	1
Belt Size	BX70
Belt Alignment	CORRECT

Test Data		
	Design	**Actual**
SF CFM	10000	8872
SF RPM	-	1550
RA CFM	7600	6522
OA CFM	2400	2350
RL Voltage	-	208/207/207
RL Amperage	-	13.8/13.7/13.7
SF Rotation	-	CCW
RA Damper Position	-	72%
Min OA Damper Position	-	28%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.34"
Fan Suction SP	-	-0.59"
Fan Discharge SP	-	0.68"
Total ESP	0.80"	1.02"
Fan Total SP	-	1.27"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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National TAB

Project: 08-05-24 PF CHANGS AUSTIN, TX

System/Unit: AHU/RTU

Asset: RTU3 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	LENNOX	TRANE
Serial Num	-	23153241JA
Model Num	LGA300H	GCC300A3ELA0B070
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	67X20
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	WEG
Frame	-	182/4TZ
Horsepower	7.5	7.5
Motor Rpm	-	3510
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	17.9

Drive Data	
	Actual
Motor Sheave Size	5"
Motor Bore Size	1.25"
Motor Sheave SetPt	1 TURN OPEN
Fan Sheave Size	14"
Fan Sheave Bore	1.5"
Belt CL Distance	14"
Num of Belts	1
Belt Size	B56
Belt Alignment	CORRECT

Test Data		
	Design	**Actual**
SF CFM	10000	7962
SF RPM	-	2796
RA CFM	7600	5666
OA CFM	2400	2296
RL Voltage	-	209/210/211
RL Amperage	-	12.8/12.7/12.9
SF Rotation	-	CCW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.57"
Fan Suction SP	-	-0.62"
Fan Discharge SP	-	0.88"
Total ESP	0.80"	1.45"
Fan Total SP	-	1.50"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Oscar Ventura on 08/23/2024